

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. - 68. (Canceled)

69. (Previously Presented) A system for data communication, the system comprising:

a first circuit card including one or more first interfaces and one or more first logic components for processing control;

a first transfer card coupled to the first circuit card through at least a first base card and a first backplane, the first base card being coupled directly to both the first transfer card and the first backplane, the first base card being neither a part of the first transfer card nor a part of the first backplane, the first transfer card not being a part of the first circuit card, the first circuit card not being a part of the first transfer card;

a second circuit card including one or more second interfaces and one or more second logic components for processing control;

a second transfer card coupled to the second circuit card through at least a second base card and a second backplane, the second base card being coupled directly to both the second transfer card and the second backplane, the second base card being neither a part of the second transfer card nor a part of the second backplane, the second transfer card not being a part of the second circuit card, the second circuit card not being a part of the second transfer card;

a first switched network card to at least perform an exchange function between the first circuit card and the second circuit card, the first switched network card and the first circuit card being different types of cards;

a first interface card coupled to the first switched network card through at least a third base card and a third backplane, the third base card being coupled directly to both the first interface card and the third backplane, the third base card being neither a part of the first

interface card nor a part of the third backplane, the first interface card not being a part of the first switched network card, the first switched network card not being a part of the first interface card, the third backplane and the first backplane being associated with different physical locations;

a second interface card coupled to the first switched network card through at least the third backplane;

a first data communication link connecting the first transfer card and the first interface card;

a second data communication link connecting the second transfer card and the second interface card;

wherein:

the first transfer card, the first circuit card, and the first backplane are associated with a first framework;

the first interface card, the second interface card, the first switched network card, and the third backplane are associated with a second framework, the first framework and the second framework being associated with different physical locations.

70. (Previously Presented) The system of claim 69 wherein each of the first data communication link and the second data communication link includes an optical fiber.

71. (Previously Presented) The system of claim 69 wherein:

the first backplane and the second backplane are the same;

the first base card and the second base card are the same.

72. (Previously Presented) A system for data communication, the system comprising:

a first circuit card including one or more first interfaces and one or more first logic components for processing control;

a first transfer card coupled to the first circuit card through at least a first backplane, the first transfer card not being a part of the first circuit card, the first circuit card not being a part of the first transfer card;

a second circuit card including one or more second interfaces and one or more second logic components for processing control;

a second transfer card coupled to the second circuit card through at least a second backplane, the second transfer card not being a part of the second circuit card, the second circuit card not being a part of the second transfer card;

a first switched network card to at least perform an exchange function between the first circuit card and the second circuit card, the first switched network card and the first circuit card being different types of cards;

a first interface card coupled to the first switched network card through at least a third backplane, the third backplane and the first backplane being associated with different physical locations, the first interface card not being a part of the first switched network card, the first switched network card not being a part of the first interface card;

a second interface card coupled to the first switched network card through at least the third backplane;

a first data communication link connecting the first transfer card and the first interface card;

a second data communication link connecting the second transfer card and the second interface card;

wherein:

the first transfer card, the first circuit card, and the first backplane are associated with a first framework;

the first interface card, the second interface card, the first switched network card, and the third backplane are associated with a second framework, the first framework and the second framework being associated with different physical locations;

each of the first data communication link and the second data communication link includes an optical fiber.

73. (Previously Presented) The system of claim 72 wherein the first switched network card does not receive any data signal that does not transmit through a circuit card.

74. (Previously Presented) The system of claim 72, and further comprising a second switched network card coupled to both the first interface card and the second interface card.

75. - 77. (Canceled)

78. (Previously Presented) The system of claim 72 wherein the first backplane and the second backplane are the same.

79. (New) A smooth capacity expandable system for data communications, the system comprising:

- a circuit card including a processing control logic, an outside interface, and a first internal interface;

- a switched network card including a second internal interface;

- a transfer card including a first optical interface connected with an internal optical fiber, and a first electrical interface connected with the first internal interface;

- an interface card including a second optical interface connected with the internal optical fiber, and a second electrical interface connected with the switched network card;

- wherein the first internal interface, the second internal interface, the first electrical interface, and the second electrical interface use the same interface standard; and

- wherein:

- the circuit card supports a connection with the switched network card through the first internal interface and the second internal interface; or

- the circuit card connects with the transfer card through the first internal interface, the switched network card connects with the interface card through the second internal interface, the interface card connects with the transfer card through the internal optical fiber.

80. (New) The system of claim 79, further comprising:

- a circuit card framework; and

an interface framework;

wherein:

the circuit card framework includes the circuit card, the transfer card, and a first back plane, the first internal interface and the transfer card being electrically connected via the first back plane;

the interface framework includes the switched network card, the interface card, and a second back plane, the second internal interface and the interface card being electrically connected via the second back plane, the transfer card and the interface card being interconnected through the internal optical fiber.

81. (New) The system of claim 80 wherein the interface framework includes a plurality of switched network cards therein for expanding exchange capacity .

82. (New) The system of claim 80 wherein the circuit card framework includes a plurality of circuit cards therein for expanding an ability of receiving external data.

83. (New) The system of claim 80 wherein the number of interface cards, the number of optical fibers, and the number of circuit card frameworks connected to the optical fibers are changeable for different capacity demands.

84. (New) The system of claim 83 wherein the circuit card framework and the interface framework are at different locations.

85. (New) The system of claim 79 wherein the circuit card support a plurality of external protocols associated with a POS interface, an ATM interface, and/or an Giga-bit interface.

86. (New) The system of claim 79 wherein the first internal interface and the second internal interface each support 8B/10B signals coding.

87. (New) The system of claim 80 wherein a plurality of transfer cards are included in a base card, the base card being connected to a plurality of circuit cards via the first back plane of the circuit card framework.

88. (New) A method for implementing smooth capacity expansion for data communications, the method comprising:

- receiving an external signal by a circuit card;
- converting the external signal into an internal signal of the circuit card;
- receiving the converted internal signal by a transfer card;
- converting the converted internal signal into an optical signal;
- transmitting the optical signal to an interface card through an optical fiber;
- converting the optical signal into an electric signal by the interface card;
- transmitting the electric signal to a switched network card;

wherein the number of transfer cards, the number of interface cards, the number of optical fibers, and the number of switched network cards can be increased with the number of circuit cards.

89. (New) The method of claim 88, the method comprising:

setting up, according to an increase of capacity, an independent circuit card framework including the circuit card, the transfer card, and a back plane therein;

wherein:

- an internal interface of the circuit card and the transfer card are electrically interconnected through the back plane;

- the process for converting the converted internal signal into an optical signal is performed by the transfer cards;

- the process for transmitting the optical signal to an interface card through an optical fiber includes transmitting the optical signal to a framework for the switched network cards through the optical fiber.

90. (New) The method of claim 88, and further comprising increasing the number of the switched network cards for expanding capacity.

91. (New) The method of claim 88, and further comprising increasing the number of the circuit cards to increase the ability to receive external data.

92. (New) The method of claim 88, and further comprising:
setting up different circuit cards for supporting different protocols respectively;
converting external signals corresponding to different protocols into internal signals with the same format;
transmitting the internal signals to the switched network card for processing;
wherein the protocols include POS interface protocol, ATM interface protocol and Giga-bit interface protocol.

93. (New) The method of claim 92 wherein the internal signal is a high speed serial signal and supports 8B/10B signals coding.

94. (New) The method of claim 88, and further comprising:
integrating the transfer cards into a base board, the base card supporting to convert the converted internal signal from the circuit card into the optical signal and to transmit the optical signal to the interface card;
wherein the process for transmitting the electric signal to a switched network card is performed for exchanging.

95. (New) A smooth capacity expandable system of data communications, the system comprising:

a circuit card including a processing control logic, an outside interface, and a first internal interface;

a switched network card including a second internal interface;

a transfer card including a first optical interface connected to an internal optical fiber, and a first electrical interface connected to the first internal interface;

an interface card including a second optical interface connected to the internal optical fiber, and a second electrical interface connected to the switched network card, the interface card being connected with the transfer card via the internal optical fiber;

one or more back planes each providing multiple interface slots for the circuit card, providing multiple interface slots for the switched network card;

wherein:

the transfer card is connected with the circuit card through the one or more back planes by inserting the transfer card into the interface slots for the switched network card;

the interface card is connected with the switched network card through the one or more back planes by inserting the interface card into the interface slots for the circuit card.

96. (New) The system of claim 95 wherein

the circuit card, the transfer card, and one of the one or more back planes are located in an independent framework;

the switched network card, the interface card, and another of the one or more back planes are located in another independent framework;

the transfer card and the interface card are interconnected by the internal optical fiber;

the numbers of circuit cards and the number of switched network cards are increasable.